



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

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Serial No.: 09/532,400

For: LINER FOR WASTE WATER
SYSTEM REHABILITATION

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Art Unit: 1771

Primary Examiner: Roche, L.

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CLAIMS AS AMENDED 7/24/01

1. A bi-layer liner for lining concrete structures comprising:
a surfacer layer and a barrier layer, said barrier layer being disposed on said surfacer layer.
2. The liner of claim 1, where said surfacer layer is composed of an epoxy.
3. The liner of claim 2, wherein the barrier layer is a foam.
4. The liner of claim 3, wherein said foam is polyurea foam.
5. The liner of claim 1, where said barrier layer is composed of a polyurea and isocyanate blend.
6. The liner of claim 4, where said surfacer layer is composed of a foam.
7. The liner of claim 1, wherein said barrier layer is composed of a polyurethane foam.
8. The liner of claim 1, where said barrier layer has a cure rate of less than 60 seconds.
9. The liner of claim 1, where said barrier layer is less than 80 mils in thickness.
10. A multi-layer liner for lining a concrete structure comprising:
 - (a) a first barrier layer;
 - (b) a surfacer layer disposed on said first barrier layer; and
 - (c) a second barrier layer disposed on said surfacer layer.
11. The liner of claim 10, where said surfacer layer is a foam.
12. The liner of claim 11, wherein said foam is a polyurethane foam.

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13. The liner of claim 11, wherein said foam is a polyurea foam.

14. The liner of claim 10, where said first barrier layer and said second barrier layer are composed of the same material.

15. The liner of claim 10, where said first barrier layer and second barrier layer are composed of a polyurea and isocyanate blend.

16. The liner of claim 10, where said first barrier layer and said second barrier layer are less than 80 mils in thickness.

17. The liner of claim 10, where said first barrier layer and said second barrier layer have cure rates of less than 60 seconds.